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Deputy Minister.

LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 164

CANNED MEATS

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CANNED MEATS

OTTAWA, October 10, 1908.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 76 samples of Canned Meats, collected throughout Canada in August last. These samples may be classified as follows :—

	Samples.
Boneless Chicken	4
" Turkey	2
Brawn	1
Corned Beef	11
Devilled Chicken	2
" Ham	6
Jellied Veal	1
Loaf Beef	1
" Chicken	3
" Ham	4
" Veal	6
Lunch Ham	2
" Tongue	2
Melrose Paste	1
Pork and Beans	1
Potted Beef	1
" Chicken	2
" Duck	1
" Ham	2
" Mixed Meats	3
" Pheasant	1
" Sausage	1
" Tongue	5
" Turkey	5
" Veal	2
Roast Beef	3
" Mutton	2
Smoked Beef	1
Total	76

With a single exception (No. 34328, Potted Pheasant) these have been found in perfect condition of preservation. The exceptional sample, being "game", may be in such condition as consumers of the article prefer.

Boracic acid is the only preservative found in any of the above; and it is present in 28 samples, or nearly 37 per cent. of the collection. In no case is the amount present above one-half of one per cent of the weight of the sample.

Canned Meats form the subject of Bulletin No. 85 (June, 1903), when 99 samples were reported; and of Bulletin No. 123 (July, 1906), when 322 samples were reported upon.

In this Bulletin, the late Chief Analyst suggested the possibility of cereal products being used in the potted or devilled meat preparations; and for the purpose of investigating this point, a further study of 90 samples of potted meats, selected from the same samples reported in Bulletin 123, together with 41 samples of sausages collected in July and August, 1906, was made, and reported in Bulletin No. 125 (September 1906).

All of the potted meats were found to give reactions for starch; and the inference was perhaps too hurriedly drawn, that these contained added cereals. In certain of these samples, the microscope proved maize and potato starches present; and this undoubtedly constitutes adulteration, when not acknowledged on the label. The mere finding of starch, in potted meat, is not, however, to be regarded as implying fraudulent addition of such. Many spices contain starch (pepper about 50 per cent); and these meat preparations are all highly spiced. The various cooking processes to which they are subjected result in such changes in the starch as to make it difficult, if not impossible, to identify the starches specifically.

The question, how much starch may legitimately be present in these articles is a difficult one to solve. In the present case, the starch has been quantitatively estimated in all samples, with the following results:—

	Samples.
No starch, or traces only	46
Below 1 per cent of starch	17
Between 1 and 2 per cent	5
Above 2 per cent	8

All of the samples containing above 2 per cent. of starch are sold as "loaf" meats; with exception of the sausage.

The actual amounts of starch found in these samples (by hydrolysis and determination as dextrose) are as follows:—

No.	Name.	Manufacturer.	Starch.
31311	Veal Loaf	Libby: McNeil & Libby	2·79
31214	Ham Loaf	" " "	4·90
31215	Chicken Loaf	G. H. Hammond & Co.	3·26
32620	Ham Loaf	Libby, McNeil & Libby	5·36
22665	Veal Loaf	" " "	6·57
35297	Sausage	W. Clark	4·06
35319	Beef Loaf	Libby, McNeil & Libby	2·05
35316	Ham Loaf	" " "	4·08

So far as taste is concerned, the devilled and potted meats appear to be more highly spiced than the so-called "loaf" preparations. None of these yield more than two (2) per cent. of starch; the majority of them contain much less than 2 per cent. Hence it seems fair to infer that starch, in other forms than as spices has been introduced into the so-called "loaf" meats. *Leach* (Food Inspection, &c., p. 185) says "One per cent, or more of starch present, may be due to the pepper and spices used in seasoning the sausage."

As already pointed out (Bull. 125, p. 6) it may be that the word "loaf" is intended to convey an implication of the use of cereals in their preparation. If such is the case, a clear definition of the term "meat loaf" is desirable. No objections, upon the ground of wholesomeness can be taken to the addition of small amounts of flour, and it may be that the consistency desired by the manufacturer requires the use of gelatinized starch to give necessary coherence to the product.

I beg to recommend the publication of this report as Bulletin No. 164.

I have the honour to be, Sir,
Your obedient servant,

A. McGILL,
Chief Analyst.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Results of Analysis. Starch, p. c.	Results of Analysis. Preservatives present.	Results of Analysis. Condition of sample.
DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.										
1906.								p. c.		
Aug. 6	Potted Ham	33531	Wentzells, Limited, Halifax, N.S.	3 tins	15	W. Clark, Montreal, Can.	Sold as Potted Ham	Trace.	Boric acid.	Good.
" 7	Devilled Chicken	33532	Crey & Hodgson, Halifax, N.S.	3 "	24	Libby, McNeil & Libby, Chicago, Ill., U.S.	Sold as Devilled Chicken.	1·77	None.	"
" 7	Potted Turkey	33533	Jas. Hogan, Halifax, N.S.	3 "	30	W. Clark, Montreal, Can.	Sold as Potted Turkey	Trace.	Boric acid.	"
" 7	" Tongue	33534	Rooney & Lovitt, Halifax, N.S.	3 "	25	Libby, McNeil & Libby, Chicago, Ill., U.S.	Sold as Potted Tongue	0·12	None.	"
" 7	" Turkey	33535	Wm. Moore, Halifax, N.S.	3 "	15	Laing Packing Co., Montreal, Can.	Sold as Potted Turkey	0·13	Boric acid.	"
DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.										
July 28	Veal Loaf	31311	John McKenna, Charlottetown.	3 tins	45	Libby, McNeil & Libby, Chicago.	The best veal loaf	2·79	None.	Good.
" 28	Devilled Ham	31312	W. A. McLeod, Charlottetown.	3 "	45	W. Clark, Montreal	Devilled Ham	Trace.	Boric acid.	"
Aug. 3	"	31213	A. Bowness, Kensington	3 "	45	Libby, McNeil & Libby, Chicago.	Devilled Ham. Highest awards.	"	None.	"
" 4	Ham Loaf with Beef and Pork.	31214	Waugh & Steeves, Summerside.	3 "	54	" "	Ham Loaf, with Beef and Pork.	4·90	"	"
" 5	Chicken Loaf	31215	Sanderson & Co., Charlottetown.	3 "	75	G. H. Hammond & Co., Chicago.	The contents of this package is of superior quality. Carefully selected and inspected according to law.	3·26	"	"

DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

July 17	Devilled Ham	29743	Baird & Peters, St. John, N.B.	3 tins	18	W. Clark, Montreal	Labelled, Devilled Ham. Canada approved.	0·63	Boric acid.	Good.
" 24	Potted Tongue	29744	The F. E. Williams Co., Ltd., St. John, N.B.	3 "	30	The G. H. Hammond Co., Hammond, Indiana, U.S.	Labelled, The G. H. Hammond Co.'s Coin Special Potted Tongue. Guaranteed.	Trace.	None	"
" 6	Devilled Chicken	29745	George Stables, Newcastle, N.B.	3 "	30	W. Clark, Montreal, Can.	Labelled, Devilled Chicken.	"	Boric acid.	"
" 7	Potted Turkey	29746	J. B. Snowball Co., Ltd., Chatham, N.B.	3 "	15	The Laing Packing & Prov. Co., Montreal, Can.	Labelled, Potted Turkey. 'Anchor Brand.'	1·67	"	"
" 14	"	29747	W. A. Estabrooks, Fredericton, N.B.	3 "	45	Libby, McNeill & Libby, Chicago, U.S.A.	Labelled, Libby's Peerless Brand Potted Turkey. Contents of tin guaranteed.	1·25	None.	"

DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.

July 17	Lunch Tongue	26479	Philippe Gagnon, Baie St. Paul.	3 bots	1 05	Whitead & Turner, Quebec.		None.	None.	Good.
" 17	Corned Beef	26480	" "	3 "	48	" "		"	"	"
" 17	Lunch Ham	26483	Urbain Bolduc, Baie St. Paul.	3 "	60	J. B. Bedard & Frère, Quebec.		"	Boric acid.	"
" 17	Corned Beef	26484	" "	3 "	90	" "		"	None.	"
" 17	Prime Roast Beef	26485	F. Boivin, Baie St. Paul	3 "	75	N. Rioux & Cie, Quebec.		"	"	"

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

								p. c.		
July 29.	Roast Mutton	170	O. A. Jarry, St. Pie, Bagot.	3 boxes.	60	Wm. Clark, Montreal		None.	Boric acid.	Good.
Aug. 3.	Lunch Ham	171	N. Lindsay, Drummondville.	3 "	75	" "	Labelled 'Canada Approved.'	None.	None.	"
" 4.	Potted Veal	172	C. H. Dingman, Eastman	3 "	35	" "		Trace.	Boric acid.	"
" 6.	Tongue, Ham and Veal	173	M.G. Smith, Lac Megantic	3 "	30	" "		0·21	Boric acid.	"
" 11.	Roast Beef	174	F. N. Chagnon, Sorel	3 "	00	The Laing Packing & Prov. Co., Montreal.		None.	Boric acid.	"

BULLETIN No. 164—CANNED MEATS.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Results of Analysis. Starch.	Results of Analysis. Preservatives present.	Results of Analysis. Condition of Sample.
DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.										
1908. July 14.	Boneless Chicken	32616	P. Daoust, 146 St. Catherine E., Montreal.	3 tins	90	Simcoe Canning Co.		None.	None.	Good.
" 14.	Corned Beef	32617	The Laing Packing and Prov. Co., Montreal.	3 "	45	Vendors		None.	None.	"
" 14	"	32618	W. Clark, Amherst St., Montreal.	3 "	40	Vendor	Sample taken from stock in warehouse.	None.	None.	"
" 14.	Devilled Veal	32619	" "	3 "	25	"	" "	Trace.	Boric acid.	"
" 17.	Ham Loaf	32620	A. O. Galarneau, 624 Wellington St., Montreal.	3 "	45	Libby, McNeil & Libby, Chicago.		5·36	None.	"
DISTRICT OF OTTAWA—J. A. RICKEY, INSPECTOR.										
July 14.	Boned Turkey	22663	C. Whitney & Son, Prescott, Ont.	3 tins	75	Van Camp Packing Co., Indianapolis Ind.	Labelled Van Camp's Boned Turkey.	None.	None.	Good.
" 21.	Tongue, Ham and Veal	22664	McDonald Bros., 441 Gladstone Ave., Ottawa.	3 "	30	F. J. Castle Co., Ottawa, Ont.	Labelled Tongue, Ham and Veal. Mfg. by Wm. Clark, Montreal.	0·73	Boric acid.	"
" 22.	Veal Loaf	22665	T. R. Davies, 287 Rideau St., Ottawa.	3 "	60	Bate & Co., Ottawa, Ont.	Labelled Libby's Veal Loaf. 'The best Veal Loaf.'	6·57	None.	"
" 23.	"	22666	R. Richardson, Carleton Place.	3 "	30	W. Clark, Montreal	Labelled Clark's ready Lunch Veal Loaf.	1·53	None.	"
" 24.	Wild Duck	22667	A. P. Johnson, Bronson Ave., Ottawa.	3 "	15	" "	Labelled Potted Wild Duck.	Trace.	Boric acid.	"

DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

July 22.	Corned Beef	35295	W. Davies, Belleville	3 tins	45	Wm. Davies, Toronto		None.	None,	Good.
" 22.	Chicken	35296	S. Fourt, Port Hope	3 "	15	W. Clark, Montreal		Trace.	Boric acid.	"
" 22.	Sausage	35297	" "	3 "	45	" "		4·06	None.	"
" 23.	Jellied Veal	35298	G. Matthews, Peterboro	3 "	60	Vendor		None.	None.	"
" 23.	Pork and Beans	35299	" "	3 "	30	"			None.	"

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

								p. c.		
July 29	Potted Tongue	35134	The Wm. Davies Co., Ltd., Toronto.	3 tins	15	Vendors	Labelled, Potted Tongue, containing Pork, Tongue and Cereal.	0·13	None.	Good.
" 30	Ox Tongue	35135	The Park Blackwell Co., Ltd., Toronto.	3 "	1 95	"	Labelled, Prime Ox Tongue, quality guaranteed.	None.	"	"
" 31	Cooked Corn Beef	35136	John Ross, St. Catherines.	3 "	45	Wm. Clark, Montreal. Can.	Labelled, Clark's Cooked Corned Beef. Warranted to keep in any climate.	"	"	"
Aug. 5	Chicken Loaf	35137	Jno. O. Carpenter, Hamilton.	3 "	60	Armour & Co., Chicago	Labelled, Trade Mark. 'Veribest Chicken Loaf.'	0·64	"	"
" 7	Boned Turkey	35138	E. H. Purdy, Port Perry	3 "	1 05	Aylmer Canning Co., Ltd., Aylmer.	Labelled, Boned Turkey, Extra Quality, A.C.Co.	None.	"	"

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

July 15	Boned Chicken	30941	Charles A. Nairn, Goderich.	3 tins	1 00	Aylmer Canning Co., Aylmer.		None.	None.	Good.
" 20	Veal Loaf	30946	Richard Smyth, Seaforth	3 "	45	W. Clark, Montreal		0·88	Boric acid.	"
" 20	Smoked Beef (sliced)	30947	Cardin Bros., Seaforth	3 "	45	A. M. Smith & Co., London, Ont.		None.	None.	"
" 20	Potted Beef	30948	Charles Andrews, Seaforth.	3 "	30	W. Davies & Co., Toronto.		0·68	"	"
" 21	Cooked Corned Beef	30957	The Barnsdale Trading Co., Stratford, Ont.	3 "	45	W. Clark, Montreal		None.	"	"
" 22	Ham, Tongue and Veal	30959	W. C. Davis, Hensall	3 "	30	W. H. Gillard & Co., Hamilton, Ont.		0·63	Boric acid.	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Results of Analysis. Starch.	Results of Analysis. Preservatives present.	Results of Analysis. Condition of Sample.
DISTRICT OF WINDSOR—JOHN TALBOT, INSPECTOR.										
1908. July 20	Canned Meat	34582	Wm. Davies Co., London	3 tins	90	Wm. Davies & Co., Toronto.		None.	None.	Good.
" 29	Canned Beef	34583	Can. Packing Co., London.	3 "	45	Vendors	Corned Beef	"	Boric acid.	"
Aug. 13	"	34599	O'Dwyer & Jay, Strathroy.	3 "	45	Clark Packing Co., Montreal.	"	"	None.	
" 14	Brawn	34600	Fenwick & Son, St. Mary's.	3 "	45	Can. Packing Co., London.	Labelled, Brawn	"	Boric acid.	"
" 14	Ham Loaf	34603	J. M. Adam, St. Mary's	3 "	45	Wm. Clark, Montreal	Labelled, 'Ham Loaf'	0 73	None.	"
DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.										
Aug. 10	Veal Loaf	33197	J. G. McLean & Co., Pilot Mound.	3 cans	1 30	W. Clark, Montreal	Ready Lunch Veal Loaf	1·30	Boric acid.	Good.
" 10	Boneless Chicken	33198	" "	3 "	1 05	The Manitoba Canning Co., Grand Point, Manitoba.	Boneless Chicken. Trade mark. Tricolor trade mark.	None.	None.	"
" 11	Potted Ham	33199	R. A. Garrett & Co., Manitou.	3 "	30	W. Clark, Montreal	Potted Ham	Trace.	Boric acid.	"
" 11	Potted Turkey	33200	" "	3 "	30	"	Potted Turkey	"	"	"
" 12	Veal Loaf	35701	Thos. Hartley, Winnipeg	3 "	45	Libby, McNeil & Libby, Chicago, U.S.A.	Veal Loaf with Beef and Pork.	0·77	None.	"

DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

									p. c.		
Aug. 17	Canned Meats	35316	Spencer & Todd, Medicine Hat.	3 tins	50	Libby, McNeil & Libby, Chicago.	Ham Loaf	4·08	None.	Good.
" 19	"	35317	Hudson Bay Co., Lethbridge.	3 "	60	" "	Chicken Loaf	0·73	None.	"
" 22	"	35318	Wilkin & Jones, Fort Saskatchewan.	3 "	25	W. Clark, Montreal	Devilled Ham	Trace.	Boric acid.	"
" 25	"	35319	Hudson Bay Co., Edmonton.	3 "	50	Libby, McNeil & Libby, Chicago.	Beef Loaf	2·05	None.	"
" 25	"	35320	" "	3 "	30	Manitoba, Canning Co., Grand Point.	Potted Chicken	0·36	None.	"

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

July 31	Devilled Ham	34325	A. J. McFarline, Fairview, Vancouver.	3 tins	45	W. Clark, Montreal		0·40	Boric acid.	Good.
" 31	"	34326	S. Bell, Vancouver	3 "	40	W. Davies, Toronto		0·73	None.	"
" 31	Melrose Paste	34327	W. H. Welsh, Vancouver.	3 "	45	Libby, McNeil & Libby, Chicago.		0·98	None.	"
Aug. 1	Potted Pheasant	34328	J. McTaggart, Vancouver.	2 jars	60	Peck, Snow Hill, London, Eng.	'Archer brand.'	Trace.	Boric acid.	Decomposed.
" 1	Potted Tongue	34329	S. Wright, Vancouver	3 tins	60	Armour Packing Co., Kansas City, U.S.	'Helmet brand.'	Trace.	None.	Good.

DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.

July 21	Roast Beef	34940	Windsor Grocery Co	3 tins	75	Clark, Montreal, P.Q.	Clark's Cooked English Roast Beef.	None.	Boric acid.	Good.
" 21	Corned Beef	34941	" "	3 "	40	The Laing Packing & Prov. Co., Montreal, P.Q.	Laing's Compressed Cooked Corn Beef.	None.	Boric acid.	"
" 21	Roast Mutton	34942	" "	3 "	75	The Union Canning Works, Sydney, N.S.	Union Brand Roast Mutton.	None.	None.	"
" 21	Lunch Tongue	34943	" "	3 "	105	The Laing Packing & Prov. Co., Montreal, P.Q.	Laing's Lunch Tongue	None.	None.	"
" 21	Boneless Chicken	34944	" "	3 "	105	The Delhi Canning Co., Montreal, P.Q.	Boneless Chicken	None.	None.	"